# Performance Audit
# Traffic Management Center

October 2013

**City Auditor's Office**

**City of Kansas City, Missouri**

09-2012

October 3, 2013

Honorable Mayor and Members of the City Council:

This performance audit of Public Works' Traffic Management Center was initiated by the city auditor pursuant to Article II, Section 216 of the city charter. We focused on Public Works' use of the Traffic Management Center to manage traffic.

We found Public Works is not using the Traffic Management Center effectively to manage traffic. The department's efforts are mainly focused on traffic control and signal coordination and the only staff assigned to the center is a part-time technician. Although the department spent about $2.2 million building and furnishing the center, Public Works did not develop an operating plan to address funding and staffing for the center when it was built. Staffing the center with only a part-time technician does not allow the department to manage traffic signals in real-time and prevents the department from taking advantage of the Traffic Management Center's capabilities to actively monitor and manage traffic.

The effectiveness of the Traffic Management Center is also affected by the failure to timely repair damaged fiber optic cables that connect traffic signals and other equipment to the Traffic Management Center. Cables damaged by Water Services when crews are repairing water and sewer lines are not always repaired timely due to a lack of procedures for reporting and repairing the damage.

We make recommendations to improve the effectiveness of the Traffic Management Center, the city's planning for including funding for operations when planning for capital improvements, and communication between Public Works and Water Services to ensure damaged fiber optic cables are repaired timely.

We shared a draft of this report with the city manager, director of Public Works, and director of Water Services on August 29, 2013. Their responses are appended. We would like to thank Public Works, Water Services, and Office of Environmental Quality staff for their assistance and cooperation during this audit. The audit team for this project was Joan Pu, Julia Webb-Carter, and Douglas Jones.

Douglas Jones
City Auditor

# Traffic Management Center

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# Introduction

## Objectives

We conducted this audit of the Traffic Management Center (TMC) under the authority of Article II, Section 216 of the Charter of Kansas City, Missouri, which establishes the Office of the City Auditor and outlines the city auditor's primary duties.

A performance audit provides findings or conclusions based on an evaluation of sufficient, appropriate evidence against criteria. Performance audits provide objective analysis to assist management and those charged with governance and oversight in using the information to improve program performance and operations, reduce costs, facilitate decision making, and contribute to public accountability.[1]

This report is designed to answer the following question:

- Is the Public Works Department using the Traffic Management Center effectively to manage traffic?

## Scope and Methodology

Our review focuses on the operation of Public Works' Traffic Management Center. Our audit methods included:

- Reviewing literature and guidelines to identify recommended practices for managing and operating a traffic management center.
- Interviewing Public Works staff to understand the purpose and operation of the Traffic Management Center.
- Interviewing comparable cities and area cities that have a traffic management center to obtain information about the management and operation of their traffic management centers.

[1] Comptroller General of the United States, *Government Auditing Standards* (Washington, DC: U.S. Government Printing Office, 2011), p. 17.

- Interviewing Public Works and Water Services department staff to understand how fiber optic cables damaged by excavation work are reported and repaired.

- Analyzing cost data for remodeling and furnishing the Traffic Operations Center building to estimate the cost of building and furnishing the Traffic Management Center.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

In conducting our work, we identified an issue not directly related to our audit objective. We communicated the issue to the Mayor in a separate memorandum. No information was omitted from this report because it was deemed privileged or confidential.

## Background

A traffic management center collects traffic information, monitors traffic flow and equipment, and allows real-time adjustments to traffic signals from a central location. Traffic management centers can help the public reach their destinations safely and efficiently especially when road construction, traffic accidents, and other events disrupt normal traffic flow.

Public Works' Traffic Management Center is located in the Traffic Operations Center building at 5310 Municipal Avenue. The city started remodeling the front part of the Traffic Operations Center building in 2010. Part of the remodeling included adding a Traffic Management Center. The Traffic Management Center was completed in 2011 and cost about $2.2 million. The Traffic Management Center was funded mainly by federal American Recovery and Reinvestment Act (ARRA) grants and the city's capital improvement fund.

Exhibit 1. Traffic Management Center Building and Furnishing Cost and Funding Sources

| Funding Sources | Amount ($) | Percent of Total |
|---|---|---|
| ARRA Funded Federal Department of Energy Grant | $1,138,092 | 51.0% |
| ARRA Funded Missouri Department of Transportation Grant | 750,000 | 33.6% |
| City Funds | 345,283 | 15.5% |
| **Total** | **$2,233,375** | **100.0%** |

Sources: PeopleSoft, Public Works, and Office of Environmental Quality.

About 62 percent (370 of 595) of the city's traffic signaled intersections are connected by fiber optic cables to Public Works' Traffic Management Center. In addition, traffic surveillance cameras and detection cameras at these signaled intersections are also connected to the Traffic Management Center.

**Operation Green Light.** Almost 200 of the city's traffic signaled intersections are also a part of the Operation Green Light system. Operation Green Light is a regional arterial traffic signal coordination system managed by the Mid-America Regional Council (MARC) for the purpose of coordinating traffic signals on major roadways in the Kansas City metropolitan area from a single regional traffic management center. The city is one of the 19 member cities and agencies, including the Missouri Department of Transportation, Overland Park, and Olathe.

**Traffic signal timing plans.** Part of traffic signal management is developing and operating traffic signal timing plans. A signal timing plan moves various users, such as automobiles, pedestrians, emergency vehicles, public transit, and bicyclists, through a signaled intersection or a group of coordinated intersections safely and efficiently by allocating them right-of-way and accommodating traffic fluctuations at different times of a day, week, and year. Once plans are installed, they run automatically until changes are made to the plans.

Public Works has a traffic signal timing plan for the downtown area and one for each of the major traffic corridors.[2] The downtown signal timing plan covers the area from the Missouri River to Truman Road and from Broadway Boulevard to Charlotte Street and is connected to the Traffic Management Center. It was developed by a consulting firm before the Sprint Center opened in 2007. It has three components -- off peak hours, AM/PM peak hours, and after hours. The after-hour component addresses the traffic condition downtown should there be an event at the

[2] The only plans that can be controlled by the Traffic Management Center are for those traffic signals that are connected by fiber optic cables.

Sprint Center. Traffic signal timing plans for a few traffic corridors (e.g. sections of Main Street, Troost Avenue, and Ward Parkway) are also connected to the Traffic Management Center.

# Findings and Recommendations

## Summary

Public Works is not using the Traffic Management Center effectively to manage traffic. The department's efforts are mainly focused on traffic control and signal coordination, while some of the other goals for the center include monitoring traffic, optimizing traffic flow, and managing traffic proactively.

The department did not develop an operating plan to address funding and staffing for the center when it was built. The only staff assigned to the center is a part-time technician. Staffing the center with only a part-time technician does not allow the department to manage traffic signals in real-time and prevents the department from taking advantage of the Traffic Management Center's capabilities to actively monitor and manage traffic.

The effectiveness of the Traffic Management Center is also affected by damage to fiber optic cables that connect traffic signals and other equipment to the Traffic Management Center. Cables damaged by Water Services when crews are repairing water and sewer lines are not always repaired timely due to a lack of procedures for reporting and repairing the damage.

We make recommendations to improve the effectiveness of the Traffic Management Center, the city's planning for including funding for operations when planning for capital improvements, and communication between Public Works and Water Services to ensure damaged fiber optic cables are repaired timely.

## Public Works Is Not Using the Traffic Management Center Effectively

Public Works is not using the Traffic Management Center effectively to manage traffic. Because only one part-time technician is assigned to the center, the city cannot control traffic or signal coordination in real-time. Although the city has some traffic signal timing plans to help move traffic in and out of downtown and along some major traffic corridors, the center is not used to evaluate whether timing plans address current traffic patterns.

The Traffic Management Center is not being used to its full potential. The system has the capacity to perform more functions to meet the department goals of monitoring traffic, optimizing traffic flow, and managing traffic proactively. Public Works did not have a plan for funding the operation of the Traffic Management Center before building it and does not assign enough staff to take advantage of the capacity of the center.

**Traffic Management Center Not Staffed to Meet Its Traffic Signal Management Goal**

The Traffic Management Center is not staffed to meet Public Works' goal of managing traffic signals in real-time. The department described various goals for building and operating the Traffic Management Center, including enhancing dispatch functions so that damaged signals and signs could be repaired in time and reducing emissions, fuel usage and driver delay through citywide traffic signal coordination. The only staff at the Traffic Management Center is a part-time technician who works in the center about 25 hours a week on weekday mornings.

Public Works management told us that the purpose of building the Traffic Management Center was to directly link all traffic signals and to manage these signals in real-time from a central location. However, one part-time technician cannot ensure that traffic signals are managed in real time. Department management also told us their ability to monitor and control the traffic signal system in real-time is hampered due to lack of staff.

Based on a review of traffic management literature[3] and interviews with managers at traffic management centers in other cities, traffic signal management includes monitoring traffic signals; verifying, diagnosing, and fixing signal problems remotely; and changing signal operation in real-time. The part-time technician does check whether traffic signals are sending data back to the Traffic Management Center, whether traffic signals are connecting to each other, and whether computer software and other hardware are operating at the desired condition. He also reports any problems so that field technicians can diagnose and correct the problems. None of the city's signals are diagnosed or fixed remotely. In addition, signal operations are not changed in real-time.

[3] U.S. Department of Transportation, *Transportation Management Center. Concepts of Operation. Implementation Guide*, December 1999; National Transportation Operations Coalition, "2012 National Traffic Signal Report Card," 2012; U.S. Department of Transportation, Federal Highway Administration, ITS Joint Program Office, *Intelligent Transportation System Benefit: 1999 update*, May 28, 1999; The Center for Advanced Transportation Technology (CATT) at the University of Maryland, College Park prepared for NCHRP, Transportation Research Board of the National Academies, *Guide to Benchmarking Operations Performance Measures*, December 2007.

**Traffic Management Center Not Being Used to Full Potential**

While Public Works is using the Traffic Management Center to help manage traffic signals, the center has the potential to be used to meet the department's other traffic management goals, including monitoring traffic, optimizing traffic flow, and managing traffic proactively. The goal of building the Traffic Management Center outlined by the department was to have a fully functioning traffic control center to monitor traffic. Based on a review of traffic management literature and interviews with managers of traffic management centers in other cities, in addition to traffic signal controls, a traffic management center can be used to monitor and manage traffic flows, prevent and respond to incidents, and manage planned and unplanned events.

We compared the functions and operations of the city's Traffic Management Center with those in Denver, CO; Minneapolis, MN; Overland Park, KS; and Olathe, KS. These cities dedicate resources for staffing and operating their traffic management centers. While Kansas City is mainly focusing on traffic signal control and management, the cities we interviewed with similar or older facilities are doing more to manage traffic. Their staff monitors traffic and street conditions, actively balances traffic flows, and adjusts traffic signal timing in response to special events, street closures or other incidents, either in real-time or by activating specific signal timing plans. (See Appendix A for a more detailed comparison of traffic management center functions and operations.)

The Traffic Management Center system has the capacity to perform more traffic management functions with its traffic signal network, computer systems, and equipment. For example, the department could use the Traffic Management Center to determine whether the city's downtown traffic signal timing plan (which has not been reviewed since the Sprint Center opened) should be updated based on current traffic conditions. Unlike some of the cities we spoke with, Kansas City does not have a timing plan to address the traffic conditions when other downtown venues have special events. Department management told us that ideally a traffic timing plan would respond to traffic conditions and help traffic flow out of downtown after an event or multiple events in Bartle Hall, the Power and Light District, and the Sprint Center, as well street closures for major events and after an event. Public Works management told us that, once a plan has been installed, it would be ideal to have staff at the Traffic Management Center monitor the traffic, evaluate the timing, and refine the plans if needed.

The Traffic Management Center has four fully-equipped workstations with computers and monitors. It has the equipment capacity to monitor traffic proactively. Its full potential is not being used because the department has not assigned staff to monitor and optimize traffic flow.

In order to effectively manage traffic and utilize the Traffic Management Center to its full potential, the director of public works should evaluate the goals of its Traffic Management Center and staff the center to meet the goals.

**City Should Plan for Funding Operations Before Building or Expanding Facilities**

Public Works did not have a plan for funding the operation of the Traffic Management Center prior to building it. According to management, the center was built with the intention of staffing the center when the national economic condition was improved and when funds were available. Prudent planning suggests that operating and maintenance costs be estimated and funding sources identified before moving ahead with a capital project. Although the department spent about $2.2 million building and furnishing the center, Public Works has not made any specific budget requests to staff and operate the center. Anticipating and budgeting for operation costs strengthen management's ability to utilize a facility to achieve its intended purpose.

In prior audits, we identified capital improvement projects that were constructed without operation and maintenance plans. New community centers were built before the operating expenses of the expanded system were identified.[4] The Liberty Memorial museum was expanded without a business plan which should have included the estimated operating and maintenance costs and funding sources.[5]

To ensure new or expanded facilities can achieve their intended purpose, the city manager should ensure that operating funds are identified and available before capital improvement projects are built or expanded.

## Broken Fiber Optic Cables Reduce Effectiveness of Traffic Signal System

Fiber optic cables damaged by Water Services when its crews excavate the street to repair underground water and sewer lines, and equipment are

[4] Office of the City Auditor, City of Kansas City, Missouri, *Performance Audit. Parks and Recreation Department Community Centers,* April 2002, p. 8.

[5] Office of the City Auditor, City of Kansas City, Missouri, *Performance Audit. Liberty Memorial Restoration,* April 2001, p. 31.

not being repaired timely due to a lack of communication between Public Works and Water Services. Establishing procedures for reporting, repairing, and paying for damaged cables should improve the effectiveness of the traffic signal system.

**Excavation Work Can Damage Fiber Optic Cables**

Fiber optic cable conduits connected to the Traffic Management Center are installed underground and can sometimes be damaged by street excavation work to repair or install underground utility lines, such as gas, power, telephone, and water. When a cable is damaged, the interconnection of the Traffic Management Center with traffic signals and other equipment, such as surveillance cameras, detection cameras and detection loops is severed. Any synchronized timing of signals along the route of the cable can be impacted. Depending on the location of the damaged cable and the number of cables in a conduit that are broken, the damage can affect one signaled intersection or a number of street blocks or up to 100 blocks.

Public Works staff investigates in the field when its cable conduits have been damaged and contacts the responsible company. Responsible companies, such as utility companies, the utility line locating company, or construction companies either repair the damage or pay Public Works for the repair.

**Public Works and Water Services Need to Develop a Process for Handling Broken Cables**

A lack of procedures for reporting, repairing, and paying for cables damaged by Water Services reduces the effectiveness of the traffic signal system. City water lines are buried four to six feet under the ground to prevent from freezing, while the fiber optic cables and other utility lines are between one to two feet deep. Fiber optic cables can be broken by a water main break or excavation work to repair utility lines. According to Public Works, as of August 22, 2013, six fiber optic cables at five locations damaged by Water Services had not been repaired. Until the broken fiber optic cables are repaired, the interconnection between the Traffic Management Center and the traffic signals is severed.

Public Works staff told us they contact Water Services management when fiber conduits are broken by Water Services, but Water Services was not always responsive to the request to repair the breakages. Water Services Department management told us they occasionally received e-mails from Public Works about damaged cables, but they thought Public Works would have the repairs made and bill Water Services.

When Water Services is responsible for damaging utility lines that belong to other utility companies, the utility companies make a claim to the city's Law Department which then handles the claim and notifies Water Services of the resolution of the claim. Some Water Services staff told us they assumed Public Works is responsible for contacting the city's Law Department to make a claim for damages for the repair payment.

The Code of Ordinances allows the city's legal expense fund to pay claims made by a city department or third parties for losses of, or damage to, city properties[6]. However, it is best for the two departments to reach a resolution without submitting a claim against the fund, because any departmental claim against another department will divert valuable time and resources of involved departments, the Risk Management Committee, and staff.

In order to minimize the effect damaged cables have on the city's traffic signal system and to repair the damages timely, the directors of Public Works and Water Services should develop a procedure for reporting, repairing, and paying for fiber optic cable damages when Water Services is responsible for the damages.

## Recommendations

1. The director of public works should evaluate the goals of the Traffic Management Center and staff the center to meet the goals.

2. The city manager should ensure that operating funds are identified and available before capital improvement projects are built or expanded.

3. The directors of public works and water services should develop a procedure for reporting, repairing, and paying for fiber optic cable damaged by Water Services.

[6] Code of Ordinances, Sec. 2-1685.

# Appendix A

## Comparison of Traffic Management Center Functions and Operations

| Criteria | City and County of Denver, CO | Minneapolis, MN | Overland Park, KS | Olathe, KS | Kansas City, MO |
|---|---|---|---|---|---|
| Year traffic management center began to operate | 1995 | 1974 | 2005 | 2005 | 2011 |
| **Traffic Signal Control** | | | | | |
| Have a system capable of real-time monitoring and management of the traffic signal system | Yes | Yes | Yes | Yes | Yes |
| Majority of the traffic signals in the traffic signal system connected to the above mentioned system | 87% (1,100 of 1,262) | 97.5% (782 of 802) | 84.6% (220 of 260) | 96% (120 of 125) | 62% (370 of 595) |
| Monitor and respond to conditions of the traffic signal system, including<br>• Detecting, verifying, and diagnosing signal problems.<br>• Correcting faults remotely.<br>• Dispatching maintenance resources.<br>• Requesting dispatch of law enforcement to direct traffic if an intersection signals become inoperable<br>• Changing signal operation mode remotely. | Yes | Yes | Yes | Yes | Partial (A part-time staff checks the system each morning.) |
| **Roadway Management** | | | | | |
| Monitor and manage traffic flow, actively balance traffic flow between alternate routes, provide relative travel time, etc. | Yes | Yes | Yes | Yes | No |
| Have signal timing plans for recurring and special occasions/events | Yes | Yes | Yes | Yes | Partial (Timing plan for Downtown only) |
| **Incident Prevention and Response** | | | | | |
| Provide traveler information<br>• Warnings of unsafe or congested street conditions<br>• Incident information | Yes | Yes | Yes | Yes | No |
| Manage lane closures | Yes | Yes | Yes | Yes | No |
| Reduce incident impact<br>• Reducing number of lanes closed<br>• Creating alternate routes<br>• Dispatching resources for incident clearance and roadway cleanup | Yes | Yes | Yes | Yes | No |

| Criteria | City and County of Denver, CO | Minneapolis, MN | Overland Park, KS | Olathe, KS | Kansas City, MO |
|---|---|---|---|---|---|
| **Planned and Unplanned Events Management** | | | | | |
| Monitor street conditions during events | Yes | Yes | Yes | Yes | No |
| Adjust traffic signal timing in response to planned events (e.g. sport games and concerts) or other conditions (e.g. emergency) | Yes | Yes | Yes | Yes | Partial |
| **Performance Measurement** | | | | | |
| Measure performance and have defined a set of methods to measure. Measurement could include:<br>• Reduced congestion (e.g. delays, number of stops, incident clearance time)<br>• Improved mobility (e.g. travel time, response time)<br>• Improved safety (e.g. number of crash, accident rate)<br>• Improved capacity (e.g. throughput, cost savings)<br>• Improved citizen satisfaction<br>• Reduced negative environmental impact (e.g. reduction in fuel consumptions) | No | Partial | Yes | Yes | Partial |
| **Dedicate Resources for Staffing and Operation** | | | | | |
| Have dedicated full time staff | 4 FTE | 3 FTE | 4 FTE | 2 FTE | 0.6 FTE |
| Number of engineers | 1 | 1 | 2 | 0 | 0 |
| Number of technicians | 3 | 0 | 2 | 1 | 0.6 |
| Number of system operator | 0 | 2 | 0 | 1 | 0 |
| Any seasonal/part-time employee or other staff fills in when needed? | No | No | No | Yes | Yes |
| Have dedicated budget | Yes, $1,135,000 | Yes, about $150,000 | Yes, about $400,000 | No | No |
| Covering peak traffic periods and special occasions | | | | | |
| • Weekday morning peak hours | Yes | Yes | Yes | Yes | No |
| • Weekday evening peak hours | Yes | No | Yes | Yes | No |
| • Weekend | Yes | No | No | No | No |
| • Special events | Yes | Yes | Yes | Yes | No |

| Criteria | City and County of Denver, CO | Minneapolis, MN | Overland Park, KS | Olathe, KS | Kansas City, MO |
|---|---|---|---|---|---|
| **Communication** | | | | | |
| Use signs, message boards, social media, etc. to inform public about signal outrages, excessive delays, crashes, street closures, etc. | Yes | Yes | Yes | Yes | Partial |
| Allow public to view street condition via monitoring cameras from city's websites, etc. | Yes | No | Yes | No | No |
| **Cross-Jurisdiction Cooperation** | | | | | |
| Have cross-jurisdictional and/or regional agreement regarding signal coordination and operations | Yes | Yes | Yes | Yes | Yes |
| **Other Functions** | | | | | |
| Collect data, conducting engineer study | Yes | Yes | Yes | Yes | No |
| Provide public education (e.g. public tours) | Yes | No | No | Yes | No |
| Work closely with other agencies (e.g. provide information to 911 dispatchers, police, fire, and other departments) | Yes | Yes | Yes | Yes | No |
| Use as a non-emergency dispatch center (e.g. snow operation, routine maintenance, etc.) | Command post for special events | No | Yes | Yes | No |
| Other departments or agencies use TMC cameras and other capacity | Yes | Yes | Yes | Yes | Yes |

Sources: U.S. Department of Transportation, *Transportation Management Center. Concepts of Operation. Implementation Guide*, December 1999; National Transportation Operations Coalition, "2012 National Traffic Signal Report Card," 2012; U.S. Department of Transportation, Federal Highway Administration, ITS Joint Program Office, *Intelligent Transportation System Benefit: 1999 update*, May 28, 1999; The Center for Advanced Transportation Technology (CATT) at the University of Maryland, College Park prepared for NCHRP, Transportation Research Board of the National Academies, *Guide to Benchmarking Operations Performance Measures*, December 2007; City and County of Denver, CO; City of Minneapolis, MN; City of Overland Park, KS; City of Olathe, KS: and City of Kansas City, MO.

# Appendix B

## Director of Public Works' Response

# Interdepartmental Communication



**DATE:** September 27, 2013

**TO:** Douglas Jones, City Auditor

**FROM:** Sherri K. McIntyre, P.E., Director of Public Works/Assistant City Manager

**SUBJECT:** Response to Draft Report on the Traffic Management Center

We appreciate the opportunity to preview the audit report *Traffic Management Center* and would like to offer the following comments regarding the recommendations 1 and 3.

***The director of Public Works should evaluate the goals of the Traffic Management Center (TMC) and staff the center to meet the goals.***

We agree in part. Public Works is developing a strategic plan with the assistance from General Services Department at the present time. Certainly, the goals of the Traffic Management Center will be evaluated. As for staffing the center, Public Works does not have authority to increase staff level. We will submit a decision package related to the TMC to the City's Budget Office for review for FY14/15.

***The directors of Public Works and Water Services should develop a procedure for reporting, repairing, and paying for fiber optic cable damaged by Water Services.***

We agree. Public Works Department (PWD) and Water Department have developed the following process to address this issue.

1. Water Services (possibly Dispatch or the appropriate Division such as Pipeline) will notify PWD's Traffic Center Dispatch (or the appropriate party and cc whoever you'd like) via email of a damaged cable and its location. This will be done as soon as possible because we don't want to delay the restoration any longer than necessary.
2. Water Services will leave the excavation open (but backfilled to the depth of cables) for repairs unless told otherwise by PWD.
3. PWD will use its contractor to make repairs. This will be done as soon as possible because we don't want to delay the restoration any longer than necessary.
4. PWD will email notification of cable repair completion to the appropriate Water Division (such as Pipeline), and then Water Services will do the restoration.
5. PWD will IATV Water Services for the cost of repairs.

In the event Public Works finds a loss of connection that may be related to a Water Services repair, PWD will:

1. Contact Water Services in a timely manner to determine if they have been working in the area.
2. Confirm with Water Services that their work caused the damage(s).
3. PWD will use its contractor to make repairs. This will be done as soon as possible because we don't want to delay the restoration any longer than necessary.
4. PWD will email notification of cable repair completion to the appropriate Water Division (such as Pipeline), and then Water Services will do the restoration.
5. PWD will IATV Water Services for the cost of repairs.

cc: Ralph Davis
Wei Sun

# Appendix C

## Director of Water Services' Response

CITY OF FOUNTAINS
HEART OF THE NATION
KANSAS CITY
MISSOURI

# Water Services Department

RECEIVED
SEP 20 2013
CITY AUDITOR'S OFFICE

DATE: September 20, 2013

TO: Douglas Jones, City Auditor

FROM: Terry Leeds, Director TCL

SUBJECT: Water Services Response to Audit of Traffic Management Center Recommendation

Regarding Recommendation #3. – *The directors of public works and water services should develop a procedure for reporting, repairing, and paying for fiber optic cable damaged by Water Services.*

Water Services agrees with the recommendation. It will work with the Public Works Department to improve communication regarding reporting of damaged traffic sign cables and to develop a process for repair of signal cables as appropriate.

# Appendix D

## City Manager's Response

**Office of the City Manager**

RECEIVED
SEP 30 2013
CITY AUDITOR'S OFFICE

**DATE:** September 20, 2013

**TO:** Doug Jones, City Auditor

**FROM:** Troy M. Schulte, City Manager

**SUBJECT:** City Manager's Response to Traffic Management Center Audit

The following details the response of the City Manager's Office to your recommendation in the upcoming performance audit of the Traffic Management Center.

Recommendation #2. *The city manager should ensure that operating funds are identified and available before capital improvement projects are built or expanded.*

Manager Response: Agree. The reconstruction of the Traffic Operations Center using federal stimulus funds presented a unique opportunity to create a long-term asset for the City without significant use of scarce local funds. The duration of the economic recession limited the ability of the City to add additional people to operate this new asset while at the same time other positions and employees were being downsized throughout the organization. Now that the economy is improving, we are proceeding with the staffing changes at a net zero financial impact to insure that the Traffic Operations Center will operate at a sustainable capacity.

The construction of horizontal infrastructure (roads and bridges) creates only marginal new operating costs for the City, while new vertical infrastructure (buildings) creates significant new operating costs. The City should continue to limit its investment in new buildings to only those facilities where either existing staff can be reallocated, or significant new revenues can be generated.